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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/636,706 04/23/96 WOLLRATH

A P1189

EXAMINER

TM02/0425

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ART UNIT

PAPER NUMBER

2151

DATE MAILED:

04/25/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/636,706

Applicant(s)

WOLLRATH ET AL.

Examiner

Pat Caldwell

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 20
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

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DETAILED ACTION

1. This action is in response to amendment that was received 11/30/00. Claims 1-33 were amended. Claims 1-33 are pending in the present application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-33 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants have amended the claims to recite "stub code" and "stub code used to facilitate remote invocation of remote method". Support can not be found within Applicants' specification for Applicants' definition of "stub code".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application

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by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 1,4,11,14,21,24 are rejected under 35 U.S.C. 102(e) as being anticipated by Hill et al (US 5511197).

As per **claims 1,11,21**, Hill et al teach a stub code retriever (retrieving stub message address) configured to initiate a retrieval of stub (stub object within the server) from a server associated with processing of remote method, stub code loader for loading stub code into execution environment (loading stub code and dynamically loading code to create an instance of a proxy) and stub code used to facilitate remote invocation of remote method (RPC runtime invokes a method of the stub channel) [col, 6, line 65 - col. 7, line 54; col. 10, line 29-4; col. 14, lines 34-col. 15, line 42; col. 19, line 1-47].

As per **claims 4,14,24**, refer to claims 1,11,21 for rejection.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 31-33 rejected under 35 U.S.C. 103(a) as being unpatentable over Betz, Mark, "Interoperable objects: laying the foundation for distributed-object computing", Dr. Dobb's Journal, v19, n11, p18(13) in view of Hill et al (US 5511197)

As per **claims 31 and 32**, Betz teaches computer (machine under a single operating system)[page 4 of enclosed copy, lines 14-22]. stub (stub code) [page 3 of enclosed copy, first full paragraph of page; pages 7-8 of enclosed copy, section Architecture of the Orb].

However, Betz does not teach stub code loader for controlling computer to load stub code into execution environment to make stub code available for use in remote invocation, stub code retrieval module configured to control computer to initiate a retrieval of stub code from a server associated with processing of remote method.

Hill et al teach stub code loader (loading the code of stub 302, dynamically loading code to create an instance of a proxy), stub code retrieval module (stub object 302 within the server) to control computer to initiate a retrieval of a stub code (retrieving stub message

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address) from a server associated with processing of remote method and stub code used to facilitate remote invocation of remote method (RPC runtime invokes a method of the stub channel) [col. 6, line 65 - col. 7, line 54; col. 10, line 29-4; col. 14, lines 34- col. 15, line 42; col. 19, line 1-47].

It would have been obvious to modify the system of Betz by implementing retrieval of stub code and loading of stub code because it provides it provides a mechanism for automatically generating stubs and proxies.

As per **claim 33**, refer to claim 31 for rejection and combination of references. It would have been obvious to embody these limitations as code store on a computer readable medium and executable by a computer.

Claims 3, 7-10, 13, 17-20, 23, 27-30 are rejected under 35 U.S.C 103(a) as being unpatentable over Hill et al (US 5511197) in view of Birrell et al , "Network Objects", 1994.

As per **claim 3**, Hill et al do not explicitly teach remote method invocation control . Birrell et al teach remote method invocation control (object-oriented system which performs the steps for remote method invocation) [pp. 5-11, 17-21, 31-33, 39-48]. It would have been obvious to remote invocations include within the system of Hill because it provides the capability of communicating across different address spaces.

As per **claim 7**, Hill et al do not explicitly teach remote server identifier for providing server identification. Birrell et al teach remote server identifier (hostnames) for

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providing server identifier. It would have been obvious to include server identifiers within the system of Hill because it provides the capability for associating an address with the server.

As per **claim 8**, Hill et al in combination with Birrell et al teach remote method server identifier (endpoint) [Birrell : pp 15-16].

As per **claim 9**, Hill et al in combination with Birrell et al teach remote method invocation identification (identifiers representing the object, the caller and the type of code) for controlling invocation of remote method [Birrell: pp 17-21].

As per **claim 10**, Hill et al in combination with Birrell et al teach nameserver (name exported from a machine server) for providing server identification and remote server identifier initiating communication with nameserver to obtain the server identification of remote method [Birrell : pp 7-9]

As per **claims 13, 17-20**, refer to claims 3, 7-10 for rejection and combination of references. It would have been obvious to embody these limitations as a method.

As per **claims 23, 27-30**, refer to claims 3, 7-10 for rejection and combination of references. It would have been obvious to embody these limitations as a computer program product.

7. Claims 2, 5, 6, 12, 15, 16, 22, 25, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill (US 5511197) in view of

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Mitchell, James et al, An Overview of the Spring System, Proceedings of Compcon, February 1994.

As per **claim 2**, Hill et al do not explicitly teach remote method reference detector for detecting whether remote method reference has been received in execution environment.

Mitchell et al teach a remote method reference detector (server creating an object reference) [page 5, section 7, last paragraph of page through page 6, line 4].

It would have been obvious to include within the system as taught by Hill et al a method reference detector as taught by Mitchell because its provides the capability of guaranteeing that the correct data is being accessed.

As per **claim 5**, Hill et al do not teach providing a separate address space for processing remote method from address space provided by execution environment .

Mitchell et al teach separate address space (servers operating in different address spaces from their clients) [page 3, section 3.1].

It would have been obvious to include with the system as taught by Hill et al the capability of separate address space because it provides a mechanism for protecting applications against interfering with each other.

As per **claim 6**, it would be obvious that the address space provided within Hill et al in combination with Mitchell et al can be provided by separate computers.

As per claims **12,15,16**, refer to claims 2,5,6 for rejection and combination of references. It would have been obvious to embody these limitations as a method.

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As per claims **22,25,26**, refer to claims 2,5,6 for rejection and combination of references. It would have been obvious to embody these limitations as a computer program product.

Response to Arguments

8. Applicant's arguments filed 11/30/00 have been fully considered but they are not persuasive.

9. Applicants argue that Hill does not teach retrieving stub code from a server.

In response, Hill teaches a system with the functionality for generating remote procedure calls. Hill additionally teaches retrieving the stub address of a stub object and loading a copy of the stub code. [col. 6, line 65 - col. 7, line 17; col. 10, line 17-41].

10. Applicants argue that Hill does not teach stub code to facilitate the remote invocation of the remote method.

In response, Hill teaches the remote procedure runtime system implementing stub objects and RPCStubbuffers to invoke methods [col. 14, line 35 - col. 15, line 42].

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wei (US 5,778,228) explicitly teaches the use of stub code for remote procedure calls. Vasudevan (US 5,887,172) explicitly teaches the use of stub code to invoke remote procedure calls. Kessler (US 6,157,961) teaches mechanisms for invocation of objects and stub code..

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12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pat Caldwell whose telephone number is 703-305-3805. The examiner can normally be reached on **FLEXTIME**.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-9051 for regular communications and 703-308-9052 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

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p.c.

April 20, 2001



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